TITLE: DISHWASHER RACK GUIDE

BACKGROUND OF THE INVENTION

Dishwashers historically have at least two racks which are adapted to move between a retracted wash position within the washing chamber and an extended position outside the washing chamber for loading and unloading dishes and other objects to be washed. The racks typically include wheels or rollers for rolling movement along tracks or guides to the retracted and extended positions. Normally, the roller systems that carry or support the rack are provided with some looseness, particularly in the side-to-side or lateral directions, due to the space or gap between the sidewalls of the rack and the sidewalls of the tub or washing chamber. Such looseness in the roller systems is desirable so as to prevent binding, and to eliminate small gaps between parts that might accumulate food particles which may reduce wash performance or create odors over time. However, the looseness may cause objects in the rack to shift from a desired location during movement of the rack, thereby decreasing the washing effectiveness or damaging the objects.

Accordingly, a primary objective of the present invention is the provision of a dishwasher rack guide for minimizing lateral movement of the rack as the rack moves into and out of the washing chamber.

Another objective of the present invention is the provision of a dishwasher rack guide which can be quickly and easily mounted on the rack to minimize lateral movement of the rack relative to the dishwasher tub.

A further objective of the present invention is the provision of a dishwasher rack guide which snap fits onto the rack to minimize lateral movement of the rack relative to the sidewalls of the tub.

Still another objective of the present invention is the provision of an improved dishwasher rack having guides mounted on the opposite sides of the rack for engagement with a sidewall of the dishwasher chamber to substantially preclude lateral movement of the rack relative to the chamber.

These and other objectives will become apparent from the following description of the invention.

BRIEF SUMMARY OF THE INVENTION

The dishwasher rack guide of the present invention includes a pair of members, each being, mountable onto one side of the rack adjacent the rear corners so as to extend laterally outwardly for engagement with the vertical sidewalls of the dishwasher tub. Although the members can be formed as projections in the rack side wires, preferably, each member snap fits onto the rack for quick and easy mounting. One or more legs extend from each member and engage a rack wire to prevent movement of the member. The member may include a wheel or roller for engagement with the tub sidewall.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of a dishwasher rack having rack guides according to the present invention mounted on the rear corners of the rack.

Figure 2 is a top plan view of the rack with the guides of the present invention mounted thereon.

Figure 3 is a perspective view of one of the rack guides of the present invention.

Figure 4 is a top plan view of the rack guide.

Figure 5 is a side elevation view of the rack guide.

Figure 6 is a partial top plan view of the rack showing an alternative embodiment of the guide with a wheel.

Figure 7 is a front elevation view of the alternative embodiment of the rack guide.

Figure 8 is a perspective view of an alternative embodiment wherein the rear ends of the rack side wires are outwardly formed.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Figures 1 and 2 show a conventional dishwasher rack 10 having a bottom 12, a front 14, a back 16, and opposite sides 18. Rollers 20 are provided on each side of the rack 10 to rollably support the wire rack 10 on tracks mounted or formed on the sidewalls of the conventional dishwasher tub (not shown).

The present invention is directed towards a pair of rack guides 22, which are mounted on each rear corner of the rack 10. In the preferred embodiment, each rack guide 22 is a one-piece molded member adapted to snap fit onto the rack 10.

More particularly, as seen in Figures 3-5, each rack guide 22 includes a base 24 with a recess 26 adapted to snap fit onto a wire of the rack 10. A substantially semi-circular curved surface 28 extends from the base 24 and around the recess 26 for engagement with a sidewall of the dishwasher tub. A pair of legs 30 extend forwardly from the base 24 and terminate in clips 32 which are adapted to engage another wire of the rack 10 to stabilize the rack guide 22.

It is understood that the surface 28 may have shapes other than the semi-circular curve shown in Figures 3-5. It is also understood that the pair of legs 30 may be formed as a single leg, without departing from the scope of the present invention.

In use, the surface 28 of the rack guides 22 engages the respective sidewall of the dishwasher tub, thereby minimizing or substantially eliminating the side-to-side movement of the rack which is otherwise present. Thus, as the rack 10 is moved in and out of the tub, the lateral movement normally present due to the looseness of the roller assemblies is precluded by the engagement of the surface 28 with the tub sidewall.

Figures 6 and 7 shown an alternative embodiment of a rack guide 34. The guide 34 has a body 36 mounted on the rear corner of the rack 10. A wheel 38 is mounted on a vertical axle 40 on the guide 34. The wheel 38 is adapted to roll along the inner sidewall to the dishwasher tub to preclude or minimize lateral movement of the rack 10.

Thus, the rack guides 22 and 34 function to minimize or eliminate lateral movement of the rack 10 as the rack is moved into and out of the dishwashing tub or washing chamber. The function of the rollers 20 are not affected by the guides 22, 34.

As shown in Figure 8 another alternate embodiment would be to form an outwardly directed radius or projection 42 in the rear of the upper wire of each side of rack 10A. These projections would engage the sidewalls of the dishwasher tub in a manner similar to guides 22 and 34. It is understood that while the projection 42 is shown to extend substantially in a horizontal plane, the projection 42 could also be formed so as to extend in a substantially vertical plane.

The invention has been shown and described above with the preferred embodiments, and it is understood that many modifications, substitutions, and additions may be made which are within the intended spirit and scope of the invention. From the foregoing, it can be seen that the present invention accomplishes at least all of its stated objectives.